

REMARKS

Reconsideration and allowance of above referenced application are respectfully requested. Upon entry of this amendment, claims 1, 2, 4-45, 47, 49-66, 68-71, 73, 74, 76-81, and 83-149 will be pending in this application.

Applicant thanks the Examiner for his indication that claims 4-19, 51-53, 57-62, 65, 66, 68-74, 76-78 and 83 are allowed.

Claim 54 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claim 54 has been amended to correct the antecedent basis, and as such applicants submit the claim is definite and readily understandable.

Claims 1, 2, 20, 24, 79, 84, 88-90 and 96-101 stand rejected under 35 U.S.C. 102(b) as being anticipated by Taggart. Claim 54 and 98 are also identified in the substantive portion of the rejection as being rejected on this same basis, and Applicant has so interpreted the rejection. Applicant respectfully traverses the Examiner's rejection, and requests clarification if the interpretation set forth above concerning the claim 54 and claim 98 rejections is incorrect.

Each of independent claims 1, 2, 20, 24, 54, 79, and 98 recite, in some form, delaying a first data stream portion, and accelerating a second data stream portion to make up for the delay time of the first data stream portion -- a combination that has been found to be very advantageous. While specific language relating to delay and acceleration was implicitly in claims 2, 54, and 79 previously, it has been explicitly added in this amendment in an effort to expedite prosecution of this application.

The newly cited Taggart patent is directed to a tape drive device that uses a feedback mechanism to properly size a "window" that is used to detect a data bit. As explained by Taggart at column 1, line 56, this window is used in order to allow the system to distinguish between a data bit and a phasing bit. This operation of Taggart is entirely different than the problems encountered by the present invention. As a result, while Taggart uses words like "accelerate" and "delay" in the same sentence, as pointed out by the Examiner when referring to column 5 line 60 to column 6, line 25, this passage has nothing to do with the acceleration and delay of a digital data stream introduced by the present inventions as set forth in the claims.

As a first illustration of the irrelevance of Taggart, applicant notes that Taggart does not teach or suggest accelerating or delaying digital data. Rather, Taggart obtains data as it arrives, and moves a "window" to account for acceleration or delays that are introduced as a result of the tape drive system operating inconsistently.

Secondly, Taggart does not disclose or suggest delaying a second data stream portion to make up for a delay of a first data stream portion. And there would be no need for Taggart to do this, since the "clock" of Taggart is very relative. Thus, Taggart in fact only teaches that in order to properly size the window, a clock pulse is "added or subtracted" (emphasis added) in order to either "accelerate or delay" (emphasis added) the generation of subsequent windows. Due to the usage of the word "or" in each of these instances, it is abundantly clear that the concept of delaying a second data stream portion to make up for a delay of a first data stream portion does not exist.

Further, the "overflow" condition referred to at column 7, lines 6-18 and pointed out by the Examiner is not the same as the overflow of a digital data stream according to the present invention. The "overflow condition" in Taggart is directed ensuring that the "window" is in the appropriate place, and otherwise indicating a malfunction occurs. This is extremely different than preventing an overflow of a portion of a digital data stream according to the present inventions.

Accordingly, the above-referenced independent claims, and the claims dependent thereon, are believed allowable.

Still further, independent claims 20, 24, and 54 further recite that the data stream is composed of a new data stream portion and an old data stream portion that is spliced together. While the Examiner refers to column 1, lines 6-10 and column 7 lines 6-18 for a teaching "the step of splicing digitally encoded data streams," applicant's review of these passages, respectfully, do not teach or suggest splicing in any manner. Thus, these claims, and the claims dependent thereon, are allowable for this additional reason as well.

Also, claim 98 further recites that at least one of the first and second digitally encoded data stream portions data stream portions do not contain any special splicing characters, and that splicing together these data stream portions, using delaying and accelerating, in a manner similar to that discussed above, is accomplished. None of the is composed of a new data stream portion and an old data stream portion that is spliced together

Other dependent claims also contain allowable subject matter. For example, while it is known to delete nulls, the recitation in claims such as 84 and 88 that delaying by inserting nulls and accelerating by deleting nulls is not disclosed or suggested in Taggart, since, as noted above, Taggart is adding or deleting clock pulses in order to maintain a window position, but is not operating on the data stream. And Taggart also does not disclose or suggest that the amount of inserted null packets corresponds to another amount of deleted null packets, such as described by claim 90.

Claims 22, 23, 43, 47, 54-56, 63-64, 85-87 and 91-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taggart as applied to claim 1 and further in view of Fox. Applicant respectfully traverses the Examiner's grounds of rejection.

In hindsight, the Examiner selects two patents that describe very different systems, and attempts to assert that the claimed inventions are obvious. Respectfully, that is not the case.

Taggart, as described above, is directed to a tape drive, and uses a feedback mechanism in order to appropriately position a window and be able to distinguish between actual data and a phasing bit as mentioned above. In contrast, Fox is directed to a method and apparatus for preserving synchronization of audio and video presentation when splicing transport streams. Given the vastly different nature of these Taggart and Fox, one of ordinary skill in the art would not have been motivated to combine these references at all --particularly in the manner suggested by the Examiner.

Further, while the Examiner has the benefit of applicant's specification and can conclusorily assert that it "would have been obvious" to combine Taggart and Fox, it is again respectfully noted that for any such combination, the combination cannot destroy the essential characteristics of each. *In Re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). And Applicant respectfully asserts that the Examiner's pending rejections have not fully considered the implications of this requirement as it pertains to the present inventions. In particular, as noted above, Taggart is directed to a tape drive mechanism, whereas Fox is directed to a method of preserving synchronization when splicing transport streams. Since these inventions are so very different, applicant cannot fathom how the essential characteristics of each can be maintained in a workable system, which has not been described by the Examiner and which reinforces that the Examiner is inappropriately using hindsight.

And even if they were combined, the present invention would not result.

Independent claim 22, amended only to clarify that the determination of delay is used for splicing, and need not occur during splicing, recites determining a delay caused by re-scheduling transmission of a part of new data stream data in a new data stream portion for splicing of data stream portions including an old data stream portion and the new data stream portion according to a formula. As Taggart does not suggest splicing, as noted above, clearly it cannot disclose determining a delay for splicing of the recited data portions. And Fox, at column 3, lines 24-35 noted by the Examiner, do not disclose nor suggest the formula for determining delay set forth in the claim.

With respect to claim 54, discussed above, the differences with respect to Taggart have been noted. And Fox does not disclose or suggest means for aligning a new stream with an old stream by both delaying and accelerating as recited. Specifically the reference to column 5, line 63 to column 6, line 12

by the Examiner does not mention either acceleration or delay, and clearly does not disclose or suggest the means for aligning both delaying and accelerating the new data stream when splicing.

With respect to claims 55 and 56, the Examiner admits that Taggart does not teach or suggest closing a GOP. And the Examiner's reference to column 1, line 55-67 and column 2, lines 39-47 of Fox neither teach nor suggest closing a group of pictures (GOP) as claimed. The Examiner asserts that these passages, among other aspects, teach that "the decoder is specified to mute when no audio access is applied." While that may be an accurate description of these passages, it clearly has nothing to do whatsoever with closing a GOP --as a "group of pictures" clearly relates to video, whereas the decoder therein discussed in Fox clearly relates to audio. Further, there is no teaching or suggestion to remove open frames.

With respect to claim 63, neither Taggart nor Fox teach or suggest determining an independently decodable frame within the portion, and causing playback to begin with the independently decodable frame.

Thus, the above claims are allowable.

Dependent claims also contain allowable subject matter. For example, claims such as 85, 91, and 102 recite that the delaying and accelerating are performed in real-time. While the Examiner asserts that Fox teaches at column 5, line 63 to column 6 line 12 that it is known to provide "timing of 'real' time encoding for the purpose of preserving audio and video presentation synchronization, this has nothing to do with the specific real-time delay and acceleration as taught by the present invention, particularly in the context of splicing together portions of different data streams.

New claims 106-149 have been added, and are also believed to contain patentably distinct subject matter.

In view of the above amendments and remarks, Applicant submits that the above-referenced application is in a condition for allowance and respectfully requests a Notice to that effect.

Respectfully submitted,

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APPENDIX WITH MARKINGS SHOWING CHANGES MADE

2. (4x amended) An apparatus for removing an overflow condition comprising:
means for detecting a first digitally encoded data stream portion causing an overflow condition;
means for delaying said first data stream portion for a delay time that prevents said overflow condition; and
means for accelerating a second data stream portion that follows said first data stream portion to substantially make-up for said delay time.
22. (2x amended) A method comprising
determining a delay caused by re-scheduling transmission of a part of new data stream data in a new data stream portion for splicing of data stream portions including an old data stream portion and the new data stream portion according to a formula:
$$(\text{currently scheduled transmission time for said portion}) + ((n \text{ packets} \times m \text{ bits/packet} \times \text{multiplexer bit rate}) / (\text{data stream bit rate})),$$

wherein n indicates a number of packets by which transmission is to be delayed, and m indicates a number of bits in a packet of data stream data to be transmitted.
54. (2x amended) A splicer for splicing digitally encoded data streams, including an old data stream and a new data stream, comprising:
(a) means for determining, in accordance with a splice-out point of the old data stream and a splice-in point of the new data stream, a new data stream real-time transmit start time; and
(b) means for aligning the new data stream with the old data stream according to said new data stream real-time transmit time, said means for aligning both delaying and accelerating said new data stream when splicing said old data stream and said new data stream such that certain data portions are accelerated to make up for previously introduced delay of other data portions.

79. (2x amended) A digitally encoded data stream transmitter comprising:
shifting means for determining an amount by which scheduled transmission times of data stream portions are to be accelerated and delayed, such that certain data portions are accelerated to make up for previously introduced delay of other data portions; and
transmitting means for transmitting said data stream portions at transmission times accelerated and delayed by the amount determined by said shifting means.